CLAIMS

What is claimed is:

1. A method of forming a semiconductor package comprising the acts of:

picking a die stack from a temporary holding surface; and

placing the die stack on a substrate.

2. The method, as set forth in claim 1, comprising the act of curing the die stack before the act of picking a die stack.

3. The method, as set forth in claim 1, comprising the act of testing the die stack before the act of picking a die stack.

4. The method, as set forth in claim 1, wherein the act of picking the die stack from a temporary holding surface comprises the act of picking the die stack from a tape reel.

5. The method, as set forth in claim 1, wherein the act of picking the die stack from a temporary holding surface comprises the act of picking the die stack from a gel pack.

6. The method, as set forth in claim 1, wherein the act of picking the die stack from a temporary holding surface comprises the act of picking the die stack from a tray.

7. The method, as set forth in claim 1, wherein the act of picking the die stack from a temporary holding surface comprises the act of picking the die stack from a wafer.

8. The method, as set forth in claim 1, wherein the die stack comprises at least two semiconductor die.

9. The method, as set forth in claim 1, wherein the die stack comprises at least three semiconductor die.

10. The method, as set forth in claim 1, wherein the die stack comprises at least two semiconductor die stacked in a shingled configuration.

11. The method, as set forth in claim 1, comprising the act of forming the die stack before the act of pick, wherein the act of forming comprises the acts of:

(a) picking up a first die having a topside and an underside with a die picking tool;

b) applying adhesive to the underside of the first die, thereby providing an adhesively coated underside of the first die; and

c) without releasing the first die from the die picking tool, picking up a second die having a topside and an underside by placing the adhesively coated underside of the first die against the topside of the second die, thereby forming a die stack.

12. The method, as set forth in claim 11, wherein the first die is thicker than the second die.

13. The method, as set forth in claim 11, wherein the acts (a), (b), and (c) are performed in the recited order.

14. The method, as set forth in claim 11, wherein act (b) is performed before act (a).

15. The method, as set forth in claim 11, comprising the act of applying adhesive to the underside of the second die, thereby providing an adhesively coated underside of the second die.

16. The method, as set forth in claim 15, comprising the act of without releasing the first die from the picking tool, picking up a third die having a topside and an underside by placing the adhesively coated underside of the second die against the topside of the third die.

17. The method, as set forth in claim 1, comprising the acts of:

applying a first adhesive between each die in the die stack, the first adhesive being curable at a first temperature; and

applying a second adhesive between the die stack and the substrate, the second adhesive being curable at a second temperature lower than the first temperature.

18. The method, as set forth in claim 1, comprising the act of using the die stack on the substrate to form an integrated circuit package.

19. The method, as set forth in claim 18, comprising the act of electrically coupling the integrated circuit package to a processor to form an electronic system.

20. The method, as set forth in claim 1, wherein at least one die in the die stack comprises a memory die.